

35 U.S.C. §103(a)

Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dams (U.S. 4,344,129) in view of Milbert (U.S. 3,821,140) or Milbert in view of Dams.

The Examiner states that although Dams' silicone polymer contains dimethyl siloxy, methylvinyl siloxy and alkylhalogenoalkyl siloxy units, Dams does not particularly teach the silicone polymer containing hydroxy or alkoxy ending groups. The Examiner further states that Milbert teaches a polysiloxane composition for electric insulation material comprising all of the components as claimed in the instant claims except the alumina trihydrate anti-tracking agent. The Examiner states that alumina trihydrate is one of the most preferred anti-tracking agents used in high voltage silicone material. The Examiner alleges that it would have been obvious for a skilled artisan at the time the invention is made (i) to add Dams' alumina trihydrate to Milbert's composition to provide high voltage insulation material with much improved anti-tracking property; or (ii) to employ Milbert's silicone polymer in Dams' composition to provide a high voltage insulation with improved bonding between the silicone polymer and the fillers such as silica and alumina.

Dams discloses a pigmented elastomer having improved color stability, particularly for blue pigments (column 1, lines 5 to 45), where the elastomer comprises a polydiorganosiloxane with aliphatically unsaturated groups, a filler, an organic peroxide curing agent, and a pigment which is an inorganic calcined complex containing Co and Al (column 1, lines 30 to 45). Additional additives disclosed include ingredients such as heat stability additives, i.e., rare earth oxides and hydroxides, processing aids and additives for improving the electrical properties of the elastomer (where a preferred additive for high voltage insulating materials is alumina trihydrate) (column 3, lines 16 to 28). Applicants are puzzled by the Examiner's assertions that alumina trihydrate is a well known additive used as an anti-tracking agent since this does not appear to be

supported by either of the references and request further comment on this point. Dams fails to disclose a silicone polymer containing hydroxy or alkoxy ending groups.

Milbert discloses an organopolysiloxane composition which cures at elevated temperatures and has reduced combustibility, containing a diorganopolysiloxane with hydroxyl, triorganosiloxy or alkoxy end groups, a filler, an organic peroxide, platinum and either at least one rare earth metal oxide or one rare earth metal hydroxide as a heat resistive agent (column 1, lines 3 to 53). Milbert discloses that conventional pigments and stabilizers may optionally be added (column 2, lines 44 to 47). It fails to disclose alumina trihydrate.

The present invention is a composition for high voltage insulating material comprising a silicone polymer, a reinforcing filler, an anti-tracking agent (alumina trihydrate), a coupling agent (silane), a curing agent, an extending filler, a processing filler, and optionally, a mold release agent, a coloring agent or a heat resistive agent. The function of the silane coupling agent is to render the alumina trihydrate and fumed silica hydrophobic. The composition of the present invention also provides higher shore hardness and tensile strength than the composition of Milbert, as demonstrated by the tables.

The composition of Dams is to improve the color stability of pigments for elastomers used in electrical operations, and the composition of Milbert is to provide reduced combustibility and improved fire resistance. One of ordinary skill in the art would not be motivated to add the optional alumina trihydrate of Dams to the composition of Milbert because the references provide no motivation to add an additive for improving electrical properties to Milbert. Alternatively, the references provide no motivation to add the fire retardant polymer composition of Milbert to the alumina trihydrate of Dams to improve electrical properties because the electrical properties of Milbert's composition are not known.

The elastomer of Dams contains vinyl functional groups, while the elastomer of Milbert contains alkoxy or hydroxyl end groups. One of ordinary skill in the art would

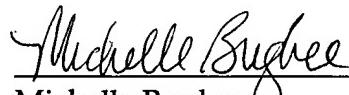
not have been motivated to add the polymer of Milbert to the composition of Dams or the alumina trihydrate of Dams to the polymer of Milbert since the references provide no motivation to substitute alkoxy or hydroxyl groups for vinyl functional groups or to suggest that the alkoxy or hydroxyl groups are equivalent to vinyl functional groups, or that alumina trihydrate would be useful when added to a polymer having alkoxy or hydroxy functional groups.

For the reasons discussed above, applicants respectfully submit that applicants' Claims 1 to 16 patentably distinguish the present invention over the references relied upon by the Examiner. Applicants therefore request that the Examiner reconsider and withdraw the rejection of Claims 1 to 16 under 35 U.S.C. 103 as being unpatentable over Dams in view of Milbert or Milbert in view of Dams.

CONCLUSION

For the reasons discussed above, applicants respectfully submit that all claims remaining in the present application are in condition for allowance, and applicants therefore request that the Examiner now issue a *Notice of Allowance* for Claims 1 to 16, the claims currently pending in the present application.

Respectfully submitted:



Michelle Bugbee
Agent for Applicants
Registration No. 42,370
Telephone No. (413) 448-7402

GENERAL ELECTRIC CO
One Plastics Avenue
Pittsfield, MA 01201
May 3, 1999
MB/meb